

INTERNATIONAL SEARCH REPORT

Int. Application No.
PCT/GB2004/002871

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C07K16/00 A61K39/395

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 C07K A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, BIOSIS, Sequence Search

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>WO 98/37200 A (GENENTECH, INC; HSEI, VANESSA; KOUMENIS, IPHIGENIA; LEONG, STEVEN, R;) 27 August 1998 (1998-08-27) "ANTIBODY FRAGMENT-POLYMER CONJUGATES AND HUMANIZED ANTI-IL-8 MONOCLONAL ANTIBODIES" page 21, line 4 - line 9 page 23, line 9 - page 27, line 18 page 30, line 30 - page 31, line 10 page 42, line 29 - line 37 claim 14</p> <p style="text-align: center;">----- -/--</p>	<p>1-23, 31-38, 41-43</p>

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *G* document member of the same patent family

Date of the actual completion of the international search

12 July 2005

Date of mailing of the international search report

25. 07. 2005

Name and mailing address of the ISA

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PCT/GB2004/002871

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 97/36932 A (PHARMACIA & UPJOHN AB; ANTONSSON, PER; HANSSON, JOHAN; BJOERK, PER; DO) 9 October 1997 (1997-10-09) "MODIFIED/CHIMERIC SUPERANTIGENS AND THEIR USE" page 14, line 28 - line 33 page 19, line 1 - line 11 claim 27	1-23, 31-38, 41-43
X	WO 99/15549 A (CELLTECH THERAPEUTICS LTD ; HUMPHREYS DAVID PAUL (GB)) 1 April 1999 (1999-04-01) "PEPTIDE SEQUENCES AS HINGE REGIONS IN PROTEINS LIKE IMMUNOGLOBULIN FRAGMENTS AND THEIR USE IN MEDICINE" page 15, line 16 - line 26 page 30; table II	1-23, 31-38, 41-43
Y	page 20, line 22 - line 32	32-38
Y	BURMEISTER GETZ E ET AL: "COMPARISON BETWEEN THE SULFHYDRYL REDUCTANTS TRIS(2-CARBOXYETHYL)PHOSPHINE AND DITHIOTHREITOL FOR USE IN PROTEINBIOCHEMISTRY" ANALYTICAL BIOCHEMISTRY, ACADEMIC PRESS, SAN DIEGO, CA, US, vol. 273, 15 August 1999 (1999-08-15), pages 73-80, XP000946001 ISSN: 0003-2697 abstract page 73, right-hand column, last paragraph - page 74, paragraph 3 discussion	32-38
X	SINGH RAJEEVA ET AL: "Labeling of antibodies by in situ modification of thiol groups generated from selenol-catalyzed reduction of native disulfide bonds" ANALYTICAL BIOCHEMISTRY, ACADEMIC PRESS, NEW YORK, NY, US, vol. 304, no. 2, 2002, pages 147-156, XP001165655 ISSN: 0003-2697 abstract figure 1 page 155, left-hand column, paragraph 2 - right-hand column, paragraph 1	24-41, 43

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	LEONG S R ET AL: "Adapting pharmacokinetic properties of a humanized anti-interleukin-8 antibody for therapeutic applications using site-specific pegylation" CYTOKINE, ACADEMIC PRESS LTD, PHILADELPHIA, PA, US, vol. 16, no. 3, 7 November 2001 (2001-11-07), pages 106-119, XP002314089 ISSN: 1043-4666	41
A	the whole document	20-40,43
P,X	----- WO 2004/043492 A (BRACCO IMAGING S.P.A; DE HAEN, CHRISTOPH; MAISANO, FEDERICO) 27 May 2004 (2004-05-27) abstract page 11, line 20 - page 12, line 12 page 23; examples 3-5 claim 1 -----	24-41,43

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Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest.

☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/SA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-23 and 42 (completely) and 31-38, 41 and 43 (in part)

Antibody Fab' or Fab fragment, characterized in that the interchain cysteine of CH1, CL or both have been replaced by another amino acid.

2. claims: 24-30, 39 and 40 (completely) and 31-38, 41 and 43 (in part)

Antibody Fab or fab' fragment, characterized in that the heavy chain is not covalently bonded to the light chain, and to which two or more effector molecules are attached, at least one to each of the interchain cysteines

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Information on patent family members

International Application No

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9837200	A	27-08-1998	US 6117980 A	12-09-2000
			EP 1415998 A2	06-05-2004
			WO 9837200 A2	27-08-1998
			AT 258599 T	15-02-2004
			AU 2559799 A	09-08-1999
			AU 746819 B2	02-05-2002
			AU 6535798 A	09-09-1998
			BR 9807464 A	09-05-2000
			CA 2281794 A1	27-08-1998
			CN 1297480 A	30-05-2001
			DE 69821338 D1	04-03-2004
			DE 69821338 T2	21-10-2004
			DK 968291 T3	07-06-2004
			EP 0968291 A2	05-01-2000
			ES 2215295 T3	01-10-2004
			JP 2001512489 T	21-08-2001
			NZ 336839 A	31-08-2001
			NZ 511956 A	26-11-2002
			PT 968291 T	30-06-2004
			WO 9937779 A1	29-07-1999
			US 6870033 B1	22-03-2005
			ZA 9900319 A	18-07-2000
WO 9736932	A	09-10-1997	AT 294818 T	15-05-2005
			AU 707827 B2	22-07-1999
			AU 2525197 A	22-10-1997
			BR 9702179 A	16-03-1999
			CA 2222757 A1	09-10-1997
			CZ 9703712 A3	13-05-1998
			DE 69733179 D1	09-06-2005
			DK 835266 T3	30-05-2005
			EP 0835266 A1	15-04-1998
			ID 16512 A	02-10-1997
			JP 2002502363 T	22-01-2002
			NO 975435 A	29-01-1998
			NZ 329145 A	23-06-2000
			PL 323626 A1	14-04-1998
			RU 2198895 C2	20-02-2003
			WO 9736932 A1	09-10-1997
			TW 517061 B	11-01-2003
			US 2003092894 A1	15-05-2003
			US 6514498 B1	04-02-2003
			ZA 9702492 A	02-10-1997
WO 9915549	A	01-04-1999	AT 257160 T	15-01-2004
			AU 9174398 A	12-04-1999
			DE 69820885 D1	05-02-2004
			DE 69820885 T2	16-12-2004
			EP 1015495 A2	05-07-2000
			ES 2212340 T3	16-07-2004
			WO 9915549 A2	01-04-1999
			JP 2001517423 T	09-10-2001
			US 6642356 B1	04-11-2003
WO 2004043492	A	27-05-2004	EP 1419786 A1	19-05-2004
			AU 2003288022 A1	03-06-2004
			WO 2004043492 A1	27-05-2004